

PATENT COOPERATION TREATY

From the
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NOTIFICATION OF TRANSMITTAL
THE INTERNATIONAL PRELIMINARY
EXAMINATION REPORT

(PCT Rule 71.1)

Date of mailing
(day/month/year)

14. 02. 00

Applicant's or agent's file reference
PCT66-DC4511

IMPORTANT NOTIFICATION

International application No.
PCT/CA98/00875

International filing date (day/month/year)
17/09/1998

Priority date (day/month/year)
07/11/1997

Applicant

FISH, Robert, Benham, Jr. et al.

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary examination report and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.

4. REMINDER

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices) (Article 39(1)) (see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

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PATENT COOPERATION TREATY

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INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference PCT66-DC4511		FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/CA98/00875	International filing date (day/month/year) 17/09/1998	Priority date (day/month/year) 07/11/1997	
International Patent Classification (IPC) or national classification and IPC C08F255/02			
Applicant FISH, Robert, Benham, Jr. et al.			
<p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 7 sheets, including this cover sheet.</p> <p><input checked="" type="checkbox"/> This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of 5 sheets.</p>			
<p>3. This report contains indications relating to the following items:</p> <ul style="list-style-type: none">I <input checked="" type="checkbox"/> Basis of the reportII <input type="checkbox"/> PriorityIII <input checked="" type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicabilityIV <input type="checkbox"/> Lack of unity of inventionV <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statementVI <input type="checkbox"/> Certain documents citedVII <input checked="" type="checkbox"/> Certain defects in the international applicationVIII <input checked="" type="checkbox"/> Certain observations on the international application			
Date of submission of the demand 27/05/1999		Date of completion of this report 14. 02. 00	
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465		Authorized officer Krail, G Telephone No. +49 89 2399 8302 	

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/CA98/00875

I. Basis of the report

1. This report has been drawn on the basis of (substitute sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments.):

Description, pages:

1-19,21-25 as originally filed

20 as received on 25/01/2000 with letter of 20/01/2000

Claims, No.:

1-17 as received on 25/01/2000 with letter of 20/01/2000

2. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
☐ the claims, Nos.:
☐ the drawings, sheets:

3. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

4. Additional observations, if necessary:

III. Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non-obvious), or to be industrially applicable have not been examined in respect of:

- ☐ the entire international application.
☒ claims Nos. 2.

because:

- ☐ the said international application, or the said claims Nos. relate to the following subject matter which does not require an international preliminary examination (specify):

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**International application No. **PCT/CA98/00875**

- ☐ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. are so unclear that no meaningful opinion could be formed (*specify*):
- ☒ the claims, or said claims Nos. 2 are so inadequately supported by the description that no meaningful opinion could be formed.
- ☐ no international search report has been established for the said claims Nos. .

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**1. Statement**

Novelty (N)	Yes: Claims 1, 3-17
	No: Claims
Inventive step (IS)	Yes: Claims
	No: Claims 1,3-17
Industrial applicability (IA)	Yes: Claims 1, 3-17
	No: Claims

2. Citations and explanations**see separate sheet****VII. Certain defects in the international application**

The following defects in the form or contents of the international application have been noted:

see separate sheet**VIII. Certain observations on the international application**

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

see separate sheet

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/CA98/00875

Reference is made to the following documents:

D1: EP-A-0 027 375 (TOA NENRYO KOGYO KK) 22 April 1981

D2: WO 95 16750 A (DU PONT; HAYASHI RYUICHI (JP); KOSHIDA REIKO (JP)) 22 June 1995

D3: US-A-5 451 639 (MARCZINKE BERND L ET SEQ. AL) 19 September 1995

D4: 'GRAFTED HETEROPHASIC POLYMERS FOR THE IMPACT MODIFICATION OF NYLON' RESEARCH DISCLOSURE, no. 358, 1 February 1994, page 84 XP000439817

Re item III

For the figure 0.9 in the claim 2, received 25 January 2000, a basis in the original documents was neither specified, nor could it be found (Art. 19(2), 34(2)b PCT).

Re item V**Novelty**

In D1 unusual high Melt flow indices (MI) values are disclosed (page 10, lines 1-5) apparently due to the use as laminating resin.

In the application the upper limit of MI is 5 g/min (claim 1). Thus, the subject matter of the claims is novel over D1.

D2 - D4 relate to the same technical field as the application namely toughener compositions for polyamides on the basis of blends of two olefine copolymers that are cografted with olefinic carboxylic acids or their anhydrides, typically maleic acid anhydride

However:

In D2 the densities are not mentioned in D2. Moreover (claim 1) component (a) is a cyclic poly olefin, whereas in the application component (a) is a copolymer of ethylene and an α -olefin having at least 4 carbon atoms.

In D3 a mixture of two propylene copolymers is cografted.

According to D4 a blend of of an ethylene- propylene rubber (b) in a propylene-ethylene copolymer or a propylene C_{4-10} α -olefin copolymer (a) is cografted.

According to the application (a) is a copolymer of ethylene and an α - olefin having at

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/CA98/00875

least 4 carbon atoms. Also the densities are not mentioned.

Thus, novelty (Art. 33(2) PCT) is given.

Inventive step

Since D1 refers to a another technical field, it cannot be used as starting point for the assessment of inventive step.

However, it is unclear which technical problem is solved by the respective distinguishing features (e.g. selection of densities) in a non obvious way. Thus, it is unclear as to whether and how inventive step might be established over D2 - D4.

On the basis of the evidence submitted, it appears doubtful as to whether or not to problem to avoid massing is linked with the respective distinguishing features. The authors of D2 to D4 do not report that they encountered massing problems nor had they to employ a partitioning agent (as formulated in the application on page 2, l. 23). This is in line with the explanation in the description on page 4, lines 13-15: "In particular, the use of the ethylene α -olefin in pre-grafted blend eliminates the need for either a pre-modification or post-modification partitioning agent." Since also in D2 to D4 the (rubbery) elastomers were used in combination with ethylene α -olefin copolymers, it appears to be logical that also the authors of D2 to D4 did not encounter a general problem of massing.

In another formulation: it appears that the problem was already solved in D2 to D4 without this being stated explicitly.

Independent process claim 14 and process claims 15 to 17

The grafting of a blend of two olefin polymers (in overlapping amounts) in an extruder at an overlapping barrel temperature (50 -295°C. page 10, lines 13-17) and the blending of the cogenerated polyolefins with polyamide is disclosed in D2, e.g. claims 1 and 3; this refers to claims 13, 14, 16.

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/CA98/00875

D2 further discloses polyamide 6 and 66 (p. 3, l. 19 and 22) and the absence of a partitioning agent; this refers to claims 1, 15 and 17.

Thus the process features as such are not novel or well known in the art.

Novelty of the process is established by component (a) of the starting materials (cf. the analysis as to claim 1).

Since it appears that the use of the component (a) as claimed (i.e. the distinguishing feature) does not involve **inventive step**, the same applies for the process as a whole.

All claims: Industrial applicability (Art. 33(4) PCT) is given.

Re Item VII

With the amended version of page 20S, received on 25 January 2000, in example 27 the value for dryflow was amended from 1.09 to 109. This amendment introduces subject-matter which extends beyond the content of the application as filed, contrary to Article 19(2) PCT.

Re Item VIII**Certain observations on the international application**

As to the feature "**massing**" the following is noted:

This is a unusual feature: cf. PCT Preliminary Examination Guidelines, Chapter III, 4.7a "The examiner should be aware of the possibility that applicants may attempt to employ unusual parameters to disguise lack of novelty."

The term "massing" is a relative term only and thus, obscure. In the description on page 20 it explained "the massing tendencies were evaluated by subjecting the polymer under a pressure of 100 g/cm² for a period of 24 hrs. ... At the end of the period, the polymer was inspected to see if the pellets have massed together and if so, whether the mass can be broken up."

This is not a clear definition since no boundaries are given.

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/CA98/00875

The feature "massing" may be tolerable in the claims for purely illustrative purposes; the feature, however, cannot be used for defining the subject matter of the application (Art. 6 PCT, clarity; PCT Preliminary Examination Guidelines, Chapter III, 4.5).

As to "toughening agent useful for improving the impact properties of polymeric compositions" (claims 1, 9, 14):

"toughening agent" represents an attempt define the subject matter of the claims or a part thereof by the the result to be achieved. This normally is not admissible (Art. 6 PCT; PCT Preliminary Examination Guidelines, Chapter III, 4.7).

Since "useful for" must be construed as meaning merely "suitable for", such a passage normally does not represent a limitation (Art. 6 PCT; PCT Preliminary Examination Guidelines, Chapter III, 4.8).

The extremely broad content of the passage in the **description** on page 16, line 24 to page 17, line 8 (here just only a blend of "at least one polymer and PE") is in contradiction with the claims (Art. 6 PCT).

Claim 11: (any) "graft monomer" is not supported by the description (Art 6 PCT). - It appears that any chemical product is somehow "a fabricated material"; cf.. Collins English Dictionary, key word "fabricate" = "to make, build, devise, invent". Thus, this term in the context given is devoid of any further meaning.

The expression "such as" has no limiting effect, the feature following ("moulded automobile parts") should be regarded as entirely optional (Art. 6 PCT; PCT Preliminary Examination Guidelines, Chapter III, 4.6).